U891RC

audio-technica

Cardioid Condenser Boundary Microphone with Local or Remote Switching

unipoint® microphones

Features

- **Electronic switch can be set to any of three operating modes: "touch-on/touch-off," "touch-to-talk" and "touch-to-mute"**
- **External contact closure capability permits control of remote devices from microphone switch**
- **External LED control allows for accurate depiction of the live status of the microphone**
- **PivotPoint® rotating output connector allows cable to exit from either the rear or the bottom of the microphone**
- **UniGuard® RFI-shielding technology offers outstanding rejection of radio frequency interference (RFI)**
- **UniSteep® filter provides a steep low-frequency attenuation to improve sound pickup without affecting voice quality**
- **Available interchangeable elements permit angle of acceptance from 100° to 360°**
- **Heavy die-cast case and non-slip silicon foam bottom pads minimize coupling of surface vibration to the microphone**

Description

The U891RC is a wide-range condenser microphone with a cardioid polar pattern. It is designed for surface-mount applications such as high-quality sound reinforcement, conferencing, distance learning and other demanding sound pickup applications.

The microphone features an ultra-quiet electronic touch switch, programmable external contact closure and LED indicator. The electronic touch switch can be set to any of three operating modes: "touch-on/touch-off," "touch-to-talk" and "touch-to-mute." The microphone's external contact closure capability permits control of remote devices. The contact closure can also be configured to operate independently of the microphone element for applications that require a constant signal from the microphone element. A switch on the bottom of the microphone allows selection of local or remote operation. (In remote operation, the LED and electronic touch switch operate independently of the microphone.) A third position on this switch enables the LED to be controlled from an external source.

The microphone requires 11V to 52V phantom power for operation.

The microphone is equipped with UniGuard® RFI-shielding technology, which offers outstanding rejection of radio frequency interference (RFI).

The microphone's cardioid polar pattern provides a 120° angle of acceptance (cardioid in hemisphere above mounting surface). Additional interchangeable elements with omnidirectional (360°) and hypercardioid (100°) pickup patterns are available.

The microphone includes a 7.6 m (25') output cable terminating in a special TA5F-type connector at the microphone end. The equipment end is stripped and tinned for connection to an electronic device. The microphone is equipped with Audio-Technica's unique PivotPoint® rotating output connector.

A switch permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass UniSteep® filter) to help control undesired ambient noise.

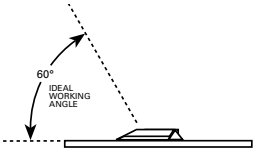
The microphone's heavy die-cast case and non-slip silicon foam bottom pads minimize coupling of surface vibration to the microphone. The microphone includes a soft protective pouch and features a low-reflectance black finish.

Installation and Operation

The U891RC requires 11V to 52V phantom power for operation.

The electronics in the microphone take up to 30 seconds to stabilize after power is applied; during this start-up period, some sonic disturbances may be heard upon switching if the system is "live."

The microphone should be placed on a flat, unobstructed mounting surface, with the front of the microphone facing the sound source. The sound source should not be below, or higher than 60° above, the plane of the mounting surface.



The microphone features a touch-sensitive on/off switch, indicator LED and external contact closure ability for controlling remote devices. The microphone offers three choices of switching modes. The SW. FUNCTION switch located on the bottom of the microphone selects the desired mode. TOUCH ON/OFF: Touch the on/off switch once to turn the microphone on; touch again to turn off. MOM. ON (momentary on): Microphone is on only while the switch is being touched ("press to talk"). MOM. OFF (momentary off): Microphone is off only while the switch is being touched ("press to mute"). The indicator LED and external contact closure follow the operation of the touch switch when in the local mode. For applications that require the microphone to remain active or always "on", regardless of the touch switch setting, a "Local/Remote/ LED Remote" control function is provided.

- When the CONTROL switch (located on the bottom of the microphone) is in the "Local" position, the touch switch controls the microphone's audio output, LED status and contact closure internally.
- When the CONTROL switch is in the "Remote" position, the microphone's audio output remains active or "on" all the time. The touch switch controls only the LED and contact closure.
- When the CONTROL switch is in the "LED remote" position, it allows remote control of the LED, for accurate depiction of the microphone's live status. The LED will remain "on" when driven logic high or open, and "off" when driven logic low or connected to ground. The microphone's audio output remains active or "on" all the time, and the contact closure follows the configuration of the touch switch.

**Refer to the table for switch/LED/closure states.*

Output is low impedance balanced. The signal appears across the red and yellow wires; audio ground is the shield connection. Output is phased so that positive acoustic pressure produces positive voltage on the yellow wire. The small-diameter black and blue wires are the contact closure. The white wire is the external LED control.

An integral 80 Hz high-pass UniSteep® filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the UniSteep® filter, slide the switch toward the "bent" line.

The microphone's PivotPoint® rotating output connector allows the cable to exit from either the rear or the bottom of the microphone without the need for tools or disassembly.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for extended periods. Extremely high humidity should also be avoided.

Note: Audio-Technica has developed a special RFI-shielding mechanism, which is an integral part of the connectors in the UniPoint® line. If you remove or replace the connector, you may adversely affect the unit's RFI immunity. Audio-Technica offers a crimp tool (ATCT) and RFI shields that enable you to shorten the cable and correctly reinstall the connector while maintaining the highest level of RFI immunity.

Note: Placing any object on a surface (such as a conference table) before its finish is fully cured may result in damage to the finish.

Architect's and Engineer's Specifications

The microphone shall be a fixed-charge condenser designed for use in surface-mount applications. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance (cardioid in hemisphere above mounting surface) and a frequency response of 30 Hz to 20,000 Hz. It shall be capable of accepting optional interchangeable elements for additional polar patterns. It shall operate from an external 11V to 52V DC phantom power source. The microphone shall be capable of handling sound input levels up to 130 dB with a dynamic range of 104 dB. Nominal open-circuit output voltage shall be 19.9 mV at 1V, 1 Pascal. Output shall be low impedance balanced (200 ohms). It shall offer outstanding rejection of radio frequency interference (RFI).

The microphone shall feature a touch-sensitive on/off switch, indicator LED and an external contact closure output for controlling remote devices. The microphone shall offer three choices of switching modes: touch-on/touch-off, momentary on, momentary off. A three-position "Local/ Remote/LED Remote" control function switch shall be provided on the microphone.

The output of the microphone shall be a TB5M-type connector. A 7.6 m (25') miniature output cable with a TA5F-type connector at microphone end shall be supplied. The output end of the cable shall have stripped and tinned color-coded leads for connections. The microphone shall include a switch to permit choice of flat response or 80 Hz low-frequency roll-off.

The microphone shall have a maximum width of 84.0 mm (3.31"), a maximum length of 108.0 mm (4.25") and a maximum height of 23.0 mm (0.91"). Weight shall be 266 grams (9.4 oz). The microphone shall be housed in a die-cast case with a perforated steel grille. Finish shall be low-reflectance black. The microphone shall include a soft protective pouch.

The Audio-Technica U891RC is specified.

Switch Settings and Functions

CONTROL Switch in "Local" Position

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Follows touch-sensitive switch	Follows touch-sensitive switch	Follows touch-sensitive switch
MOM. ON	"On" when switch is pressed	"On" when switch is pressed	Closed when switch is pressed
MOM. OFF	"Off" when switch is pressed	"Off" when switch is pressed	Open when switch is pressed

CONTROL Switch in "Remote" Position

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Always "On"	Follows touch-sensitive switch	Follows touch-sensitive switch
MOM. ON	Always "On"	"On" when switch is pressed	Closed when switch is pressed
MOM. OFF	Always "On"	"Off" when switch is pressed	Open when switch is pressed

CONTROL Switch in "LED Remote" Position

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Always "On"	Remotely controlled	Follows touch-sensitive switch
MOM. ON	Always "On"	Remotely controlled	Closed when switch is pressed
MOM. OFF	Always "On"	Remotely controlled	Open when switch is pressed

Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Half-cardioid (cardioid in hemisphere above mounting surface)
Frequency response	30-20,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Open circuit sensitivity	–34 dB (19.9 mV) re 1V at 1 Pa
Impedance	200 ohms
Maximum input sound level	130 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	104 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	68 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 4 mA typical
Switches	Touch-sensitive control: on/off; Switch function: touch on/off, momentary on, momentary off; Control: local, remote, LED remote; Flat, roll-off
Weight	266 g (9.4 oz)
Dimensions	108.0 mm (4.25") maximum length, 84.0 mm (3.31") maximum width, 23.0 mm (0.91") maximum height
Output connector	TB5M-type
Cable	7.6 m (25.0') long, 3.2 mm (0.13") diameter, 5-conductor shielded cable (2 conductors under shield; 3 control wires outside shield); TA5F-type connector at microphone end, output end stripped and tinned for connection to electronic device
Optional interchangeable elements	UE-O omnidirectional (360°) UE-H hypercardioid (100°)
Accessory furnished	Soft protective pouch

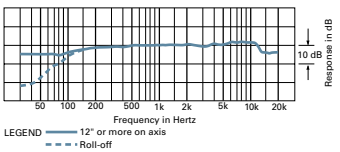
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

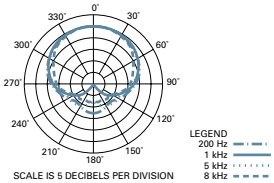
[1] Typical, A-weighted, using Audio Precision System One.

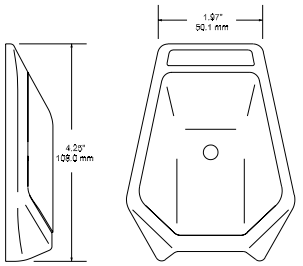
Specifications are subject to change without notice.

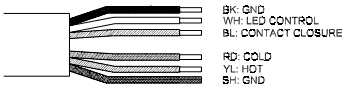
frequency response: 30–20,000 Hz



polar pattern







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